

ABSTRACT OF THE DISCLOSURE

A constant current source with threshold voltage and channel length modulation includes first, second, third, fourth and fifth MOS transistors. Each of the MOS transistors has gate, first and second terminals. The first terminal of the second MOS transistor is coupled to loading impedance, and its second terminal is coupled with the first terminal of the first MOS transistor. The gate terminal and first terminal of the third MOS transistor are together coupled to the gate terminal of the second MOS transistor, and its second terminal is coupled to the first terminal of the fourth MOS transistor. The gate terminal and first terminal of the fourth MOS transistor are coupled to the gate terminal of the first MOS transistor, and its second terminal is coupled to a first reference voltage. The gate terminal and second terminal of the fifth MOS transistor are respectively coupled to a second reference voltage and a third reference voltage, and its first terminal is coupled to the gate terminal and first terminal of the third MOS transistor.